Work Order April-30-13 2:37:		0976		*100	1976*		i de				Page 1
Revision ID:	02274 Radius Block			Accept	*N900	<u>040</u>	100)* s	Setup Star Stop	I W	S1* S2*
	./19/13 ./30/13	Start Qty: 300.00 Req'd Qty: 300.00	*300 *300		Cust Item Customer:	ID:		* '.		N	. 12
		n: MLJ	_			ate:		ŀ	Run Star Stop	<i>"\\</i>	R1* R2*
Sequence ID/ Work Center ID		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revi	ision Nbr		····································							
D2274	Rev	F									
*1 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-	SHEAR Memo ' blanks 9.00"	long +/- 0.030"Note: 1	0.00 0.00 biank makes 9 pieces						- ~-	DAS 25 1/3
110		HAAS CNC VERTICAL	MACHINING #1	0.00			•	201			DAG 25/3-S
110 HAAS ONC vertical m	machine #1	Memo	per folio D2274	0.00	.			5 21	/		<u>\$ 3</u> /3-5
6)											
¹²⁰ ♂ *1 2 ∩*		QC2- Inspect parts off ma	achine FAI/FAIB	0.00				************		·	1/A 1/3.5
QC Quality Control		Memo	•	0.00						¬. •	

s yr in										DQA:	Date:	
NCR: Y	es / No)			WORK ORDER NON-O	O	NFORM	MANCE / UPE	DATE	QA Closed:	Date:	
Work Orde	· · ·				DISPOSITION		-, -		AGAINST DE	PARTMENT,	/PROCESS	
Part N	lo.		· · · · · · · · · · · · · · · · · · ·	<i>j</i>	. Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause	Date	Step	Qty		ption of work order update or Non-conformance		nitial ief Eng	Acti Descr		Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved									•			
	<u> </u>	·	*	*		AUL	T CATE	GORY.				· · · · · · · · · · · · · · · · · · ·
Landin	Cracks Crushe Cuffs Heat T	Not Conce d/Crimped reat tion Strip ir		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes			re on Incomplete ions Incomplete/U nance led	Inclear	Ovalized Over/Under Part Incorred Part Lost/Mid Part Moved Positioned W Power Loss/S	tolerance ct ssing	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
t	Torque	s in Bend Waves in g Sequence	1	on	Drawing Finish	E	Out of 0	Calibration Gequence		ę,		

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Revig

Wave/Twist in Tube

Folio

Work Orde		0976		*10	<u> </u>	' 6 *						Page 2
Item ID: Revision ID: Item Name:	D2274 Radius Block			Accept	* \	1900	040	100)* s	etup Star Stop	. 171.	S1* S2*
Start Date: Required Date: Reference:	4/19/13 4/30/13	Start Qty: 300.00 Req'd Qty: 300.00	*300 *300			Cust Item II Customer:	D:		····			
Approvals:	Process Pla		Date:	Tooling: SPC (Y/N):	1		nte:		'R	Star Stop	"I V II	R1* R2*,
Sequence ID/ Work Center II	D	Operation Description QC8- Inspect parts - second	l check	Set Up/ Run Hours 0.00	<u> </u>	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp AS 08 9-89
130 QC Quality Control		Memo		0.00	D.A	13/05	14		327	Ψ		<u>9-89</u>
140 *140* Small Fab Small Fab		Small Fab Memo TumbleDeburr	any rough edges after	0.00 0.00 tumbling		1			327	2 <i>71</i> 6	5/3-6	1-7
150		Chemical Conversion Coat	per QSI005 4.1	0.00	÷ : • • • • • • • • • • • • • • • • • •				a 1'	י דע	B/32	L.14
150 HandFinish Hand Finishing		Memo		0.00					Q + 7		0110	

NCR: Y	es / N	0			WORK ORDER NON-C	CON	FORM	MANCE / UP	PDATÉ			
										QA Closed:	Date:	
Work Orde	er:				DISPOSITION				AGAINST DE	PARTMENT,		
Part N	lo		_		Rework Scrap		المسماخ	Skid-tübe Machining moforming	Crosstube Small Fab	-1	Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR N	lo				Use-as-is Work Order Update			Large Fab	Finishing Composite	Rec/stor	Supplier	
Root			م. ا	'Descri	ption of work order update	lr	nitial	Ad	ction	Sign &	· <u> </u>	
Cause	Date	Step	Qty	(or Non-conformance	Chi	ef Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator												
Material Setup Other	<u> </u>											
Process Supplier Training Unapproved												
опаррточеа			1	<u> </u>	FA	AULT	CATE	GORY		<u> </u>		<u> </u>
Landin	g Gear				General							· · · · · · · · · · · · · · · · · · ·
	Bendin	g Not Conce	ntric to (o/s	Bend BOM/Route	\vdash	Grain Hardwa	re		Ovalized Over/Under	tolerance	Pressure/Forced Temperature/Cure
	Cracks				Broken/Damaged	\square ı	Inspecti	on Incomplete		Part Incorred	et	Weld
	Crushe	d/Crimped			Burrs	□ ı	Instruct	ions Incomplete/	/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
Γ	Cuffs				Contamination		Mainte	nance		Part Moved		_
Γ	Heat To	reat			Countersink	Πı	Mislabe	led		Positioned V	/rong	_
	Inspect	tion Strip ir	Tube		Cut Too Short		Misread	I		Power Loss/	Surge	Other
Ī	Ripples	in Bend			Drill Holes	П	Offset			_		
	Torque	Waves in	Extrusio	n 🗀	Drawing		Out of C	Calibration			-	
	Turnin	g Sequence	<u> </u>		Finish	П	Out of S	equence				
	Wave/	Twist in Tu	be		Folio	П	Outside	Dimensions				

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordo		0976	•	*100	976*				,	· <u> </u>		Page 3
Item ID: Revision ID: Item Name:	D2274 Radius Block			Accept	*N900	040	100)*	Setup	Start Stop	*N:	S1* S2*
Start Date: Required Date: Reference:	4/19/13 4/30/13	Start Qty: 300.00 Req'd Qty: 300.00	*300 *300		Cust Item I Customer:	D:	 .					
Approvals:		in:	Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop	*N *N	R1* R2*
Sequence ID/ Work Center II 160 *160*)	Operation Description QC7-Inspect Chemical Co	onversion Coat	Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
QC Quality Control		Memo		0.00 B 6 F	∮							
170 *170* Packaging		Identify as per dwg & Sto	ck Location:	0.00	. 1			32	7x_			50
Packaging										7		13-6-1
*180 *180*		QC21- Final Inspection -	Work Order Release	0.00						13/	10/1	19

Quality Control

												DQA:	Da	ite:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	/ANCE / UPI	DATE		QA Closed:	n ₂	ıte:	÷
						I	_					QA Closed.	Da	ie.	
Work Ord	oř.					DISPOSITION				AGAINST D	El	PARTMENT	PROCESS		
Work Ord	C1.					Rework	1		Skid-tube	Crosstube			Water Jet		Engineering
Part I	۷a.					Scrap	1		Machining	Small Fab	┪	Pro	d. Eng. Coor.	\vdash	Quality
						Use-as-is	1		noforming	Finishing			e/Packaging		Other
NCR I	Vo.					Work Order Update	1	1	Large Fab	Composite			Supplier		
Root					Descri	ption of work order update	1	Initial		tion		Sign &			
Cause	-	Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descr	ription		Date	Verificatio	n	QC Inspector
Doc/Data				ĺ											·
Equip/Tooling															
Operator]												,
Material			ļ		ĺ			;							
Setup	L				1										
Other					ļ			-							·
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Supplier															
Training															
Unapproved]			\perp								
						F	AUI	LT CATE	GORY						
Landi	ng G	Sear			_	General	_	7		_		1		_	1
	-	Bending			ļ	Bend	<u> </u>	Grain		-		Ovalized		<u></u>	Pressure/Forced
		Centre No	ot Conce	ntric to	o/s	BOM/Route	L	Hardwa		F		Over/Under		\vdash	Temperature/Cure
	_	Cracks				Broken/Damaged		- 1 '	ion Incomplete	_	_	Part Incorred		\vdash	Weld
		Crushed/	Crimped			Burrs	L	-1	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance	L		Part Moved			
		Heat Trea	at			Countersink		Mislabe	:led	L		Positioned V	Vrong	_	•
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	i			Power Loss/	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print Page 1 April-30-13 2:37:26 PM Work Order ID: 100976 Parent Item: D2274 Required Date: 4/30/13 **Start Date: 4/19/13** Required Qty: 300.00 Parent Item Name: Radius Block Start Qty: 300.00 IPP H00.05.18Added inspection level 8EC **Comments:** Qty per Kit Total Component Item ID/ Replacement Mfg/ Primary Last Unit of Qty on Qty Date Status Bin Route Item Name Location Measure Hand Issued Issued Item ID Item Location Seq ID Qty Purch M6061T6B00750X00.125 33.0000 0.0916 28.92633 Purchased No 100

6061-T6 Bar .750 x .125

												DQA:	D	ate:	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UF	PDATE					
											C	QA Closed:	D	ate:	
Work Ord	loř-					DISPOSITION				AGAINST DI	EΡ	ARTMENT/	PROCESS		
Part					· · · · · · · · · · · · · · · · · · ·	Rework Scrap]		Skid-tube Machining	Crosstube Small Fab	7	Proc	Water Je	-	Engineering Quality
1 410	NO.					Use-as-is	┥		noforming	Finishing	┨		e/Packagin	_	Other
NCR	No.				 	Work Order Update	_		Large Fab	Composite		Recystor	Supplie	_	
Root					Descri	ption of work order update	T	Initial	A	ction	Т	Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ct	nief Eng	Des	cription		Date	Verificati	on	QC Inspector
Doc/Data	\overline{I}						T				T				
Equip/Tooling							-				-				
Operator			Ì											:	
Material	\Box]									1				
Setup								,			-				
Other	Г										١				ĺ
Process	Г]		1							ı				
Supplier	Г														
Training	Г										Ì				
Unapproved] .													
						i	FAUI	LT CATE	GORY						
Landi	ing (Gear				General						- · · · · - · ·			-
		Bending				Bend		Grain			<u>]</u> d	Ovalized			Pressure/Forced
		Centre N	ot Concei	ntric to	o/s	BOM/Route		Hardwa	re		_ c	Over/Under	tolerance	L	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		JP	Part Incorrec	t		Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete	/Unclear	P	Part Lost/Mis	ssing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	enance]P	Part Moved		<u> </u>	·
		Heat Trea	at			Countersink		Mislabe	eled		P	Positioned W	rong/		_
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	i		٦p	ower Loss/S	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

DART AEROSPACE LTD	Work Order:	100976
Description: Radius Block	Part Number:	D2274
Inspection Dwg: D2274 Rev: F		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

	X First A	rticle	Prototype
/ina	Actual		

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.257	+0.005 -0.000	259	/		Pin	
0.750	+/-0.010	.751			win	JL-10
0.375	+/-0.010	376			1.	
0.125	+/-0.010	-125	//		٥١	
0.750	+/-0.010	.747			~ .	
0.063	+/-0.010	-062			<u> </u>	
		÷				
			-			
			- /			

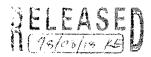
Measured by:	Audited by:	b.a DAS	Prototype Approval:	N/A
Date: 13-5-13	Date:	13/05/14 289	Date:	N/A

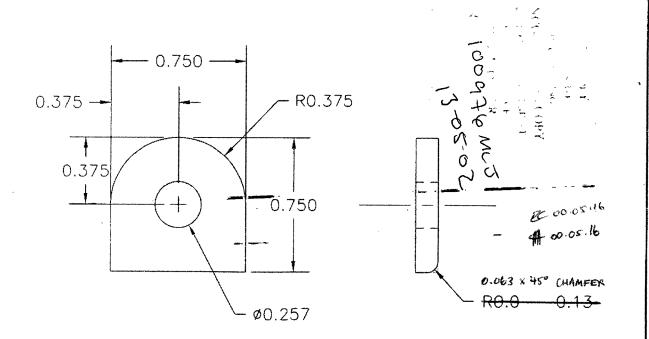
Rev	Date	Change	Revised by	Approved
Α	03.10.07	New Issue	KJ/RF	14





DESIGN KE		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHEC	KED V	APPROYED	DRAWING NO. REV. F
	VI VI	4	D2274 SHEET 1 OF 1
DATE		7	TITLE SCALE
98.08.11			RADIUS BLOCK 2:1
Α		94.09.29	NEW ISSUE
С		95.07.12	RADIUS ENDS
D		97.03.24	ADD MATERIAL SPECIFICATION
Ε		97.12.12	ADD FINISH & TOLERANCE QSI
F		98.08.11	RO.O - 0.13 WAS RO.063 - 0.125





MATERIAL: 5052-H34 (QQ-A-250/8) 0.125 THICK OR 6061-T6 (QQ-A-250/11) 0.125 THICK

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED